

REMARKS

Claims 36-40, 42-46, 48 and 49 have been canceled and new claims 50-52 have been added so that claims 35, 41, 47 and 50-52 are now in the application.

Amended claim 35 is distinguished over Sasaki by reciting:

"the first component and a first insulation layer forming a first horizontal plane that extends from the head surface entirely to the back gap in a direction that is perpendicular to the head surface; and
the second component interfacing the first component and a first portion of the first insulation layer at said first horizontal plane with a second portion of the first insulation layer extending from the first component to the back gap."

This structure is exemplified in Applicants' Fig. 6A wherein the first component 226 and a first insulation layer 234 form a first horizontal plane that extends from the head surface (ABS) entirely to the back gap 242 in a direction that is perpendicular to the head surface and the second component 228 interfaces the first component 226 and a first portion of the first insulation layer 234 at said first horizontal plane with a second portion of the first insulation layer 234 (to the left of the back surface 236 in Fig. 6A) extending from the second component 228 to the back gap 242. In contrast and as exemplified in Sasaki's 8A and 11A, his first insulation layer 12 has a back surface into the head which is coextensive with a back surface of his second component 10B. Sasaki then places his coil layer 16 within a well directly on his gap layer 9. Formation of a coil layer within a well will reduce resolution of the coil layer since the resist used to form the coil layer is not entirely on a planar surface. In contrast, the Applicants form their coil layer 246 on a planar surface before the formation of the third component 230 of their second pole piece. Applicants' amended claim 35 reads upon their embodiments shown Figs. 6A and 7-11.

Amended claim 41, which is dependent upon claim 35, is further distinguished over Sasaki by reciting:

" . . wherein the second component is a flat layer in the pole tip, yoke and back gap portions and is magnetically connected to a back gap portion of the first pole piece layer."

Amended claim 41 reads upon Applicants' Figs. 8 and 11. This structure, as exemplified in Fig. 8, is shown wherein the second component 402 is a flat layer in pole tip yoke and back gap portions and is magnetically connected to a back gap portion 214 of the first pole piece layer. In contrast, as shown in Sasaki's Figs. 8A and 11A, his second component 10b terminates before the coil layer 16 and a third component 18, which is recessed from the ABS, is stitched to the second component 10b and to the back gap 13. The Applicants eliminate a process step by constructing the second pole piece of only first and second components 226 and 402 with the second component 402 being fabricated to define the track width as well as flaring out at 236 to make a connection with the back gap 214. After Sasaki constructs his second component 10b, he forms his coil layer 16 within a well which is between the first and second components 10a and 10b and the back gap components 11 and 13. This means that the resist utilized to form Sasaki's coil 16 will not be entirely planarized and will degrade resolution of the coil layer 16. As can be seen from Applicants' Figs. 8 or 11, their second component 402 or 702 of the second pole piece does not form such a well.

Claim 47 recites similar limitations as claim 35 and is considered to be patentable over Sasaki for the same reasons as given in support for claim 35.

New claim 50, which is dependent upon claim 35, is further distinguished over Sasaki by reciting:

"a first coil layer; and
the first insulation layer being located entirely between the first coil layer
and the second component of the second pole piece."

This structure is shown in Applicants' Figs. 6A and 7-11 wherein as exemplified in Fig. 6A there is shown a first coil layer 218 with the first insulation layer 234 being located entirely between the first coil layer 218 and the second component 228 of the second pole piece. There is no similar structure shown in Sasaki's Figs. 8A and 11A. As discussed hereinabove, Sasaki's coil layer 16 is located in a well which is formed in part by his first insulation layer 12. As can be seen from Applicants' claims, planarization is maintained so that their components can be fabricated with high resolution.

Claim 51, which is dependent upon claim 50, is further distinguished over Sasaki by reciting:

"the second component and a second insulation layer forming a second horizontal plane between the head surface and the back gap in a direction that is perpendicular to the head surface;

a second coil layer located directly on the second insulation layer at said second horizontal plane;

the second pole piece having a seamless third component which is recessed from the head surface and is stitched to the second component and a back gap portion of the first pole piece; and

the second coil layer being located between the second insulation layer and said seamless third component."

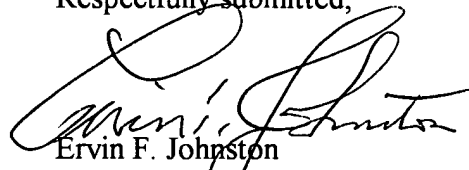
This structure is shown in Figs. 6A and 9 in Applicants' drawings and as exemplified in Fig. 6A the second component 228 and a second insulation layer 240 form a second horizontal plane between the head surface (ABS) and the back gap 242 in a direction that is perpendicular to the head surface, and a second coil layer 246 is located directly on the second insulation layer 240 at the second horizontal plane and the second pole piece has a third component 230 which is recessed from the head surface (ABS) and is stitched to the second component 228 and a back gap portion 214 of the first pole piece and the second coil layer 246 is located between the second insulation layer 240 and the third component 230. In contrast as shown in Sasaki's Fig. 11A, he employs third

and fourth components 33 and 38 instead of Applicants' single third component and he forms his coil layer 36 within a well formed by his third component 33 and a back gap component 34.

New claim 52, which is dependent upon claim 41, is further distinguished over the references for the same reasons as given in support form claim 50.

Should the Examiner have any questions regarding this document he is respectfully requested to contact the undersigned.

Respectfully submitted,



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